# TRAINING FOR THE INTEGRATION OF DECISIONS AND ECOSYSTEMS SCIENCE

University of New Hampshire

## WHY TIDES?

Ask Meg Gardner; she'll say that TIDES combines the two things she loves most—people and coasts.

"I have always been interested in how science can be translated and used in meaningful, practical ways that encourage people's engagement with the natural world. Through TIDES, I am learning not just about ecology, research techniques, and statistics, but also conflict resolution, policy and governance, and communication. The NERRS internship will provide invaluable hands-on experience in community policy building."

**Why UNH?**
"The faculty has tremendous experience in this field and is constantly evolving to better the program. I like the discussion-style of learning, where students are part of the learning process and classes are small to ensure participation from everyone. The community here is supportive and collaborative."

**What's next?**
"My goal is to foster collaboration in coastal communities addressing environmental issues. I am interested in how to get people involved in the process of changing the system in a way that enhances our ability to adapt to environmental challenges.

# Catch a Rising TIDE

Interested in working at the interface of science and the decisions shaping the future of coastal environments and communities? Consider the University of New Hampshire's (UNH) new graduate program in Integrated Coastal Ecosystem Science, Policy, and Management, also known as TIDES. This program builds the knowledge and skills needed to connect science with decision making through a combination of course work and a field-based internship at a Reserve in the National Estuarine Research Reserve System (NERRS). The program requires 36 credits of graduate training and culminates in a non-thesis, project-based Master's degree. The NERRS Science Collaborative is supporting two, fully funded, two-year TIDES fellowships that cover tuition, stipend, and health insurance. Students from diverse academic backgrounds are encouraged to apply!

## The TIDES Experience

TIDES students combine coursework at UNH with field-based work at a NERRS site. In the process, they gain knowledge and skills in the following:

- Integrative science that links coastal, estuarine and watershed management;
- Public participation in the generation of new knowledge and decision options;
- Ecosystem-based and adaptive governance;
- Facilitation of collaborative research group processes.

## TIDES Coursework

Most students complete one year of coursework before beginning an internship. In general, TIDES students take courses from the following areas:

- Coastal & Estuarine Ecology
- Approach to Research
- Statistics & Data Analysis
- Communicating Coastal Issues
- Resource Management
- Policy and Governance
- Planning & Facilitating Public Participation & Collaboration
- Conflict Resolution

An applicant's advising committee may require a heavier emphasis on certain courses, depending on his or her previous coursework.

## The TIDES Internship

An internship at one of 28 Reserves around the country is at the heart of the TIDES experience. Each internship is linked to a NERRS Science Collaborative sponsored research project, designed to insure that investigators work with intended users of the science before, during, and after the generation of knowledge. These projects focus on one of four issues: impacts of land use change, habitat change and restoration, estuarine contamination, and the management of stormwater and nonpoint source pollution.

TIDES interns help coordinate and facilitate collaborative ecosystem research within these projects. They provide input on how multi-stakeholder scientific discussions are structured and facilitated for maximum impact. They also may organize, implement, and evaluate interactions between researchers and intended users.

Most students complete one year of coursework before beginning their internships, which may be one or two terms (three to six months) in duration, depending on a student's background and available projects at the Reserves.

National Estuarine Research Reserve System Science Collaborative

*A collaborative approach to restoring native oysters in Oregon is one project funded by the Science Collaborative in 2010.*

## WHY TIDES?

Ask Emily Troisi-Rauschenberger, and she'll tell you that TIDES is preparing her to be an agent of change in coastal environments.

"TIDES has a strong focus on group learning and a practical, hands-on approach to teaching. I have always been interested in communicating science to the public, and in engaging citizens and stakeholders in the investigation of environmental problems. Through TIDES, I am learning about the human and natural systems involved in sustainability issues, and I'm furthering the skills I need to be an effective communicator and to encourage collaboration across disciplines."

**Why UNH?**
"UNH and TIDES provide wonderful communities in which to live and learn! There is a wide realm of expertise and support readily available to students. The graduate student community is welcoming. The faculty support fosters learning, challenges me, and reaches out to me with opportunities for research."

**What's next?**
My goal is to help foster collaboration in coastal communities addressing environmental issues. I am really interested in how to get people involved in the process of changing the system in a way that enhances our ability to adapt to environmental challenges.

### TIDES at a Glance

TIDES is an interdisciplinary graduate program designed to help students build the skills needed to link science to coastal decision making.

Host Institution: Department of Natural Resources & the Environment Graduate Programs, University of New Hampshire

Degree Conferred: Master of Science, non-thesis, 36 credit hours, including a field-based internship and project

Course of Study: Students will take courses from the following areas: Coastal & Estuarine Ecology; Approach to Research; Statistics/Data Analysis; Communicating Coastal Issues; Resource Management; Policy and Governance; Facilitation; Conflict Resolution; Public Participation; Funding Options

Two competitive fellowships are available. There are currently four TIDES fellows.

### How to Apply

Step 1: The application deadline is February 1. Contact Dr. Mimi Larsen Becker, the faculty advisor for the program *by email* at **mimi.becker@unh.edu**

Step 2: Apply through the UNH Graduate School. This step includes the submission of a standard application form, available through the Graduate School, relevant transcripts, and GRE scores, as well as the modified recommendations and personal statement essays requested by the program.

For general information on TIDES and application requirements, consult Dr. Becker by email. You can also log on to http://www.naturalresources.unh.edu/graduate/index4-tides.html

For information about the NERRS Science Collaborative, please go to http://nerrs.noaa.gov/RCDefault.aspx?ID=364

### About the NERRS

The National Estuarine Research Reserve System is a network of 28 areas, representing different biogeographic regions of the United States, that are protected for long-term research, water-quality monitoring, education and coastal stewardship. The System is a partnership program between the National Oceanic and Atmospheric Administration (NOAA) and the coastal states. NOAA provides funding, national guidance and technical assistance. Each reserve is managed by a lead state agency or university, with input from local partners.

**www.nerrs.noaa.gov**